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TORREY BOTANICAL CLUB.

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New York, June, 1883.

[No. 6.]

A New Fern.

By GEORGE E. DAVENPORT.

(Plate XXXIV.)

CHEILANTHES PRINGLEI, *n. sp.*—Rootstock slender, creeping, clothed with linear-lanceolate, acuminate brown scales with darker midnerves; stipites $1\frac{1}{2}'$ to $4\frac{1}{2}'$ long, reddish or chestnut-brown, furrowed along the face, clothed at the base with scales similar to those on the rhizoma, but lighter, less acuminate and oftener without midnerve, above sparingly with paler deciduous scales and chaff; laminae $1'$ to $2\frac{1}{2}'$ long, nearly as broad, triangular or irregularly deltoid or ovate-deltoid, bi- to tripinnately divided into 5 to 7 pairs of opposite and spreading—in the smaller and sterile fronds—or, in the larger and fertile ones, alternate erecto patent pinnæ, lowest pair distant, sometimes shorter than the next, apex deeply pinnatifid, obtuse, both surfaces naked, dark green, rachises beneath clothed with light, nearly transparent—whitish brown becoming darker with age—ovate or linear-lanceolate scales with entire or sparingly toothed margins, those of the main rachis the narrowest; pinnæ $\frac{5}{8}'$ to $1\frac{1}{8}'$ long, lower unequally deltoid or ovate, obtuse, bipinnate, obliquely and pinnatifidly cleft toward the apex, uppermost oblong, pinnate or deeply pinnatifid; pinnules $\frac{1}{8}'$ to $\frac{3}{8}'$ long, the lower series usually the longest, ovate or oblong, obtuse, pinnately divided, or deeply cleft into cuneate-ovate or obovate, oblique segments which are again deeply cleft into cuneate, strap-shaped divisions, those of the largest segments again deeply cut into narrow, obtuse or blunt, cuneate lobes, the recurved tips in the fertile fronds forming distinct herbaceous involucre with entire or slightly crenulate margins; sori one to each ultimate lobe on the apex of a free veinlet; sporangia few, light brown, with about 18 rings. Spores light colored.

Habitat. Base of rocks, mountains of South-eastern Arizona. Collected by Mr. C. G. Pringle, May 2d, 1883.

I take pleasure in dedicating this beautiful fern to my friend Pringle, to whom I am under many obligations. Its delicately cut fronds, exquisite grace and loveliness suggest to my mind something of the refined tone and delicacy of its discoverer's own nature, and this dedication therefore seems to me doubly appropriate. The species is one of the most distinct and satisfactory that has been discovered for a long time, and is wholly unlike any known to our flora or heretofore described. The true form of the frond appears to be triangular, or at least the tendency is toward that form, although in some fronds the greatest breadth is across the second pair of pinnæ, as seen in those drawn by the artist, and, while the lower series of

pinnules are generally the longest, sometimes the upper series vary alternately with one or two as long as or longer than the lower, making an irregular outline. The shape of the segments and ultimate divisions varies considerably, but, in holding a fertile frond to the light, the general appearance is that of being finely cut into numerous ligulate divisions with cuneate bases. The young fronds before being unrolled (crosiers) are completely enveloped in a dense covering of whitish scales. The dimensions given for this species will no doubt be found to vary as more of it is collected. My thanks are due to Mr. Faxon for the pains he has taken with the drawing. The excellence and accuracy of his work is now too well known to need any special commendation, and the present drawing speaks for itself.

By a happy coincidence I am able to announce a double discovery by Mr. Pringle, and to accompany my description of his charming fern with a description by Mr. Peck of a new species of fungus found growing on the epidermis of the lamina in the form of pretty orange-colored dots, which, under the glass, resemble little cups filled with bright yellow spores. Mr. Peck has very kindly sent me his manuscript description, and expressed a wish to have it accompany my own description of the fern upon which the fungus grew, and it is accordingly given hereafter.

EXPLANATION OF PLATE XXXIV.—1. Plant, natural size. 2. Enlarged pinnule (second lower pinnule on second pinna). 3. Segment enlarged. 4. Lobe with one indusium turned back. 5. Scale from back of frond. 6. Scale from rhizoma. 7. Sporangium. 8. Spore.

A New Fern Rust.

By CHAS. H. PECK.

CÆOMA CHEILANTHIS, n. sp.—Spots indefinite, pallid or pale yellow; sori minute, rotund, slightly prominent, hypophyllous or occasionally amphigenous; spores globose or broadly obovate, regular, bright luteous or orange-colored, .00065 to .0009 of an inch long.

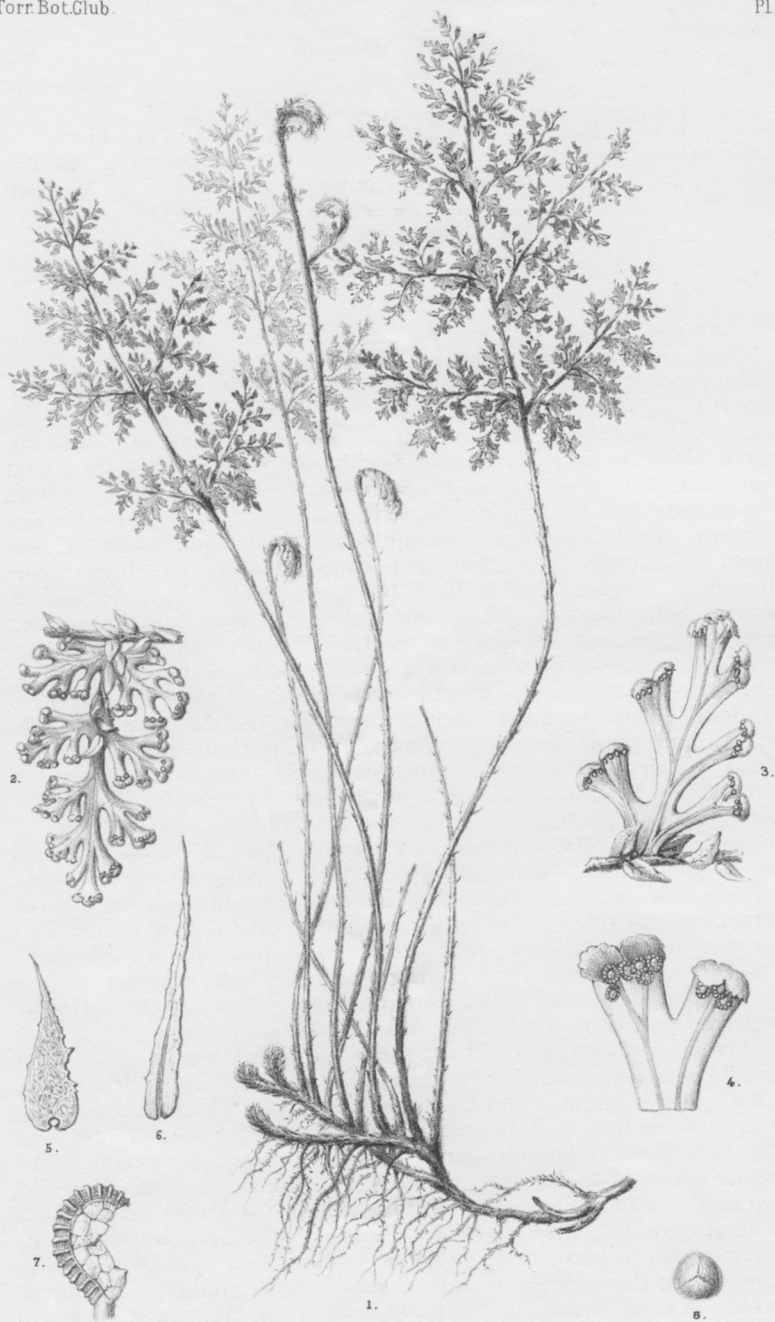
Living fronds of *Cheilanthes Pringlei*, Davenport, Arizona. May. Collected by C. G. Pringle; communicated by G. E. Davenport.

This fungus, though closely resembling *Cæoma filicum* Lk., (*Uredo filicum*, auct.), in external appearance, is readily distinguished from that species by its smaller, more regular and mostly globose spores. In *C. filicum* the spores are more or less angular and .0008 to .0011 of an inch long. In *C. Aspidiotus* (*Uredo Aspidiotus*, olim) which is regarded by some mycologists as a form of *C. filicum*, not only is the external habit different from that of both the preceding species, but also the prevailing form of the spores is more elongated and their length ranges from .0012 to .0017 of an inch.

Arceuthobium in New Hampshire.—I recently found near this place, in a swamp, on spruce trees, *Arceuthobium pusillum*, Peck (*A. minutum*, Engl.). The plants were in fruit (last season's plants), and the trees to which they were attached were in a dying condition. I have looked for *Arceuthobium* here before, but must have overlooked it, or it may be that it is of recent introduction here, which I doubt.

Hanover, N. H.

HENRY G. JESUP.



C.E. Faxon. del.

A. Meisel. lith.

CHEILANTHES PRINGLEI, n.sp.